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DOI 10.2210/pdb1fxs/pdb

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Title GDP-FUCOSE SYNTHETASE FROM ESCHERICHIA COLI COMPLEX WITH NADP

Authors Somers, W.S., Stahl, M.L., Sullivan, F.X.

Primary Citation Somers, W.S., Stahl, M.L., Sullivan, F.X. (1998) GDP-fucose synthetase from Escherichia coli: structure of a unique member of the short-chain dehydrogenase/reductase family that catalyzes two distinct reactions at the same active site. *Structure* 6: 1601-1612
[Abstract]

History Deposition 1998-09-01 Release 1999-08-26

Experimental Method Type X-RAY DIFFRACTION Data N/A

Parameters	Resolution[Å]	R-Value	R-Free	Space Group				
	2.30	0.163 (obs.)	n/a	P 3 ₂ 2 1				
Unit Cell	Length [Å]	a	b	c	Angles [°]	alpha	beta	gamma
		104.20	104.20	75.10		90.00	90.00	120.00

Molecular Description Polymer 1 Molecule PROTEIN (GDP-FUCOSE SYNTHETASE) Chains A
Asymmetric Unit

Classification Oxidoreductase

Source Polymer 1 Scientific Name Escherichia coli Common Name Bacteria Expression system Escherichia coli

Related PDB Entries Id 1BSV Details null

Ligand Chemical Component	Identifier	Name	Formula	Drug Similarity	Hapten Similarity	Ligand Structure
NAP		NADP NICOTINAMIDE-ADENINE-DINUCLEOTIDE PHOSPHATE	C ₂₁ H ₂₈ N ₇ O ₁₇ P ₃	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	[View]

SCOP Classification (version 1.71)

Domain Info	Class	Fold	Superfamily	Family	Domain	Species
d1fxsa_	Alpha and beta proteins (a/b)	NAD(P)-binding Rossmann-fold domains	NAD(P)-binding Rossmann-fold domains	Tyrosine-dependent oxidoreductases	GDP-4-keto-6-deoxy-d-mannose epimerase/reductase (GDP- fucose synthetase)	Esche

CATH Classification (version v3.1.0)

Domain	Class	Architecture	Topology	Homology
1fxsA01	Alpha Beta	3-Layer(aba) Sandwich	Rossmann fold	NAD(P)-bindi Rossmann-lit
1fxsA02	Alpha Beta	Alpha-Beta Complex	UDP-galactose 4-epimerase; domain 1	UDP-galactos epimerase, d

PFAM Classification

Chain	PFAM Accession	PFAM ID	Description	Type	Clan ID
A	PF01370	Epimerase	NAD dependent epimerase/dehydratase family	Family	NADP_Rossm

GO Terms

Polymer	Molecular Function	Biological Process	Cellular Component
PROTEIN (GDP-FUCOSE SYNTHETASE) (1FXS:A)	<ul style="list-style-type: none">catalytic activitycoenzyme binding	<ul style="list-style-type: none">cellular metabolic process	<ul style="list-style-type: none">none

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